PREVENTION OF SIGNIFICANT DETERIORATION PERMIT
STATIONARY SOURCE PERMIT TO CONSTRUCT AND OPERATE
This amended permit includes designated equipment subject to New Source Performance Standards (NSPS).

This amended permit supersedes your permit dated July 7, 2000, as amended August 10, 2001.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Birchwood Power Partners, L.P.
10900 Birchwood Drive
King George, Virginia 22485
Registration No.: 40809
AIRS ID No.: VA-099-0012

is authorized to construct and operate a pulverized coal-fired electric power generating facility (the Birchwood Power Facility) located on:

State Route 665, approximately one mile northeast of the intersection of State Route 3 and State Route 665, in King George County, Virginia.

in accordance with the Conditions of this permit.

Approved on: April *, 2005

Robert G. Burnley
Director, Department of Environmental Quality

Permit consists of 20 pages.
Permit Conditions 1 to 46.
Source Testing Report Format.

PERMIT CONDITIONS - the regulatory reference or authority for each condition is listed in parentheses ( ) after each condition.

APPLICATION

*1. Except as specified in this permit, the permitted facility is to be modified and operated as represented in the following correspondence:

- Permit application dated November 26, 1991;as amended August 10, 1992; April 19, 1996, February 11, 2000; and May 9, 2000;

- Permit application dated August 29, 2003 with additional information dated November 10, 2003; January 22, 2004; February 4, 2004; November 5, 2004; November 16, 2004; November 29, 2004; January 10, 2005; January 25, 2005; and February 9, 2005.

(9 VAC 5-50-390, 9 VAC 5-80-1210D, 9 VAC 5-80-1720)

PROCESS REQUIREMENTS

*2. **Equipment List** - The facility equipment consists of:

- One pulverized coal-fired boiler to be modified to allow the combustion of landfill gas. The boiler has a design maximum heat input capacity of 2,300 x 10^6 Btu per hour and is equipped with a selective catalytic reduction system, a lime spray dryer system, and a fabric filter baghouse (Boiler - NSPS Da)

- A coal handling system (unloading, crushing, storage, conveying, pulverizing);

- An enclosed building housing coal crushers;

- An ash and flue gas desulfurization by-product disposal system;

- A lime handling system (unloading, crushing, storage);

- An anhydrous ammonia storage and handling system with a storage tank capacity of 10,000 gallons (approximately a fifteen day supply),

- One No. 2 fuel oil storage tank of 200,000 gallons capacity (NSPS Kb); and,

- One No. 2 fuel oil storage of 500 gallons capacity.

(9 VAC 5-80-1180D.3 and 9 VAC 5-80-1310)

*3. **Emission Controls** – Particulate matter emissions from the boiler shall be controlled by a fabric filter baghouse system rated at 99.9% control efficiency. The

baghouse shall be provided with adequate access for inspection. The baghouse may be bypassed during No. 2 distillate fuel oil boiler start-ups and shutdowns to alleviate potential moisture damage at low start-up temperatures as well as potential bag blinding/burn-up by the products of oil combustion to the baghouse. The baghouse may not be bypassed when coal and/or landfill gas (LFG) is being combusted in the boiler except during start-ups. The baghouse shall be equipped with a device to continuously measure pressure drop across the fabric filters. (9 VAC 5-50-280, 9 VAC 5-80-1310, 9 VAC 5-80-1190 and 9 VAC 5-80-1800)

*4. **Emission Controls** – Sulfur dioxide (SO_2) emissions from the boiler shall be controlled by a lime spray drying system (a dry flue gas desulfurization (FGD) system) having a design efficiency for sulfur dioxide (SO_2) removal of 94%, based on firing 1% sulfur coal in the boiler. The dry FGD system shall have a minimum SO_2 control efficiency of 90.0% on a thirty day rolling average while firing low sulfur coal (defined in Condition 18) and achieve the SO_2 emission limits in Condition 13.

When combusting a combination of LFG and coal, the dry FGD system shall achieve the SO_2 emission limit in Condition 13 and have a minimum SO_2 control efficiency of 80% on a thirty day rolling average.

The dry FGD system shall be in operation at all times when the boiler is firing coal and/or LFG except during boiler start-ups and shutdowns. The FGD system shall be provided with adequate access for inspection.
(9 VAC 5-50-280, 9 VAC 5-80-1310, 9 VAC 5-80-1190 and 9 VAC 5-80-1800)

*5. **Emission Controls** – Nitrogen oxide (NOx) emissions from the boiler shall be controlled by combustion technology and selective catalytic reduction (SCR). The following conditions apply to the design and construction of the selective catalytic reduction system.

a. The SCR system shall be designed, constructed and operated to achieve a nitrogen oxides emission rate of 0.10 lbs/10^6 Btu on a thirty day rolling average.

b. Upon request by the DEQ, design specifications of the SCR system shall be submitted to the Air Compliance Manager of the Fredericksburg Satellite Office of DEQ. Design specification information shall include, but not be limited to, the capacity of the ammonia feed system, the design catalyst volume, the expected catalyst replacement schedule to achieve the design control efficiency of the nitrogen oxides, and the anticipated operating range of ammonia to nitrogen oxides mole ratio.

c. A device shall be installed, maintained and operated to continuously monitor and record the amount of ammonia injected in the boiler exhaust gas stream.

d. The SCR system shall be in operation at all times of boiler operation except during boiler start-ups and shutdowns.

e. The SCR system shall be provided with adequate access for inspection when the boiler is shut down.

(9 VAC 5-50-280, 9 VAC 5-80-1310, 9 VAC 5-80-1190, 9 VAC 5-80-1800 and 9 VAC 5-170-160)

6. **Emission Controls** – The SCR system for the boiler shall be designed and optimized as stated in Condition 5a. In the event that nitrogen oxides emission rate exceeds 0.10 lbs/10^6 Btu on a thirty day rolling average, the permittee shall do one or more of the following, as necessary:

a. Maintain the ammonia-to-nitrogen oxide mole ratio at the design level, provided that no detrimental effect on equipment downstream of the SCR system occurs.

b. Add catalyst as necessary to achieve nitrogen oxides emissions limit of 0.10 lbs/10^6 Btu on a thirty day rolling average to the extent that catalyst addition is limited by the SCR design catalyst bed volume.

c. Replace catalyst as necessary to achieve a nitrogen oxides emissions limit of 0.10 lbs/10^6 Btu on a thirty day rolling average to the extent catalyst replacement need not exceed 50% of the SCR design catalyst bed volume within each 3-year operating period for this facility.

If none of the above alternatives proves effective in attaining or maintaining the emission limit of 0.10 lbs/10^6 Btu on a thirty day rolling average, then a maximum nitrogen oxides emission limit of 0.15 lbs/10^6 Btu must not be exceeded.
(9 VAC 5-50-280, 9 VAC 5-80-1310, 9 VAC 5-80-1190, 9 VAC 5-80-1800 and 9 VAC 5-170-160)

7. **Emission Controls** – Carbon monoxide (CO) and volatile organic compound (VOC) emissions from the boiler shall be controlled by combustion technology. (VAC 5-50-280, 9 VAC 5-80-1310, 9 VAC 5-80-1190 and 9 VAC 5-80-1800)

8. **Emission Controls** – Particulate matter (PM and PM10) emissions from the coal handling shall be controlled as follows:

a. Rail car coal unloading and coal transfer operations to the coal storage pile shall be controlled by wet suppression or a DEQ approved chemical suppression applied at the coal unloading building and tunnel beneath the building;

b. All coal conveyor belts shall be equipped with hoods, or located in tunnels or buildings that serve as total enclosures;

c. Wet suppression or chemical suppression shall be applied to the active and reserve coal storage piles as necessary to minimize emissions. In addition, unloading of coal to the storage piles shall be via a radial stacker;

d. Coal transfer points (e.g., belt conveyor to belt conveyor coal transfer) shall be equipped with a total enclosure, or located inside buildings that serve as total enclosures;

e. Coal bins located beneath the coal storage piles shall be equipped with three fabric filters that vent to the reclamation tunnel;

f. The coal crusher/pulverizer shall be equipped with a fabric filter that vents to the atmosphere, and located in a building that serves as a total enclosure; and

g. The tripper deck (i.e., equipment used to transfer coal from the conveyor belt to the boiler coal storage bunkers) shall be equipped with a fabric filter that vents inside the tripper deck room, and located in a building that serves as a total enclosure.

The fabric filters, conveyor hoods, total enclosures, and wet/chemical suppression systems shall be maintained and operated as required to control particulate matter emissions at all times. The fabric filters, conveyor hoods, total enclosures and wet suppression systems shall be provided with adequate access for inspection.
(VAC 5-50-280, 9 VAC 5-80-1310, 9 VAC 5-80-1190 and 9 VAC 5-80-1800)

9. **Emission Controls** – Particulate matter (PM and PM10) emissions from the material transfer operations to the lime storage silo and the flyash storage silo shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection.
(VAC 5-50-280, 9 VAC 5-80-1310, 9 VAC 5-80-1190 and 9 VAC 5-80-1800)

10. **Fugitive Emission Controls -** Fugitive emissions from frequently traveled facility access roads shall be controlled by paving. Fugitive emissions from all paved facility roads shall be controlled through frequent sweeping or roadway washing. Emissions from unpaved roads shall be controlled by wetting or approved alternatives as necessary. If operating mechanical sweepers, water shall be used to suppress dust during sweeper operation. Material spilled or tracked onto paved surfaces shall be promptly removed to prevent dust from becoming airborne.
(9 VAC 5-50-260, 9 VAC 5-80-1180 and 9 VAC 5-50-90)

OPERATING/EMISSION LIMITATIONS

*11. **Fuel Throughput** - The annual throughput of coal as fired to the boiler shall not exceed 783,406 tons per year, calculated monthly as the sum of each consecutive twelve-month period.

The annual throughput of landfill gas as fired to the boiler shall not exceed 5,098,320,000 cubic feet per year, calculated monthly as the sum of each consecutive twelve month period.
(9 VAC 5-80-1180 and 9 VAC 5-80-1310)

*12. **Emission Rates -** Emission rates (as referenced in Condition 13) generated from the boiler may be estimated using the following equations.

	FUEL EMISSION RATES (LB/MMBtu)		
	COAL	No. 2 distillate fuel oil	Landfill Gas
POLLUTANTS			
TSP	0.020	1.4×10^{-2}	0.000082
PM10	0.018	7.1×10^{-3}	0.000082
CO	0.20	0.036	0.0057
VOC	0.01	1.4×10^{-3}	0.003
Pb	8.95×10^{-5}	6.4×10^{-8}	0.00
Chloride (as HCl)	2.8×10^{-4}	2.5×10^{-3}	0.00078
Fluoride (as HF)	3.8×10^{-4}	2.7×10^{-4}	0.00
*NOx	0.10/0.15	0.10/0.15	0.0165
*SO_2	0.10	1.01S	0.015

TSP (lb per year) = (HI_{tc} x TSP lb/$MMBtu_{coal}$) + (HI_{to} x TSP lb/$MMBtu_{oil}$) + (HI_{tlfg} x TSP lb/$MMBtu_{lfg}$)

PM10 (lb per year) = (HI_{tc} x PM10 lb/$MMBtu_{coal}$) + (HI_{to} x PM10 lb/$MMBtu_{oil}$) + (HI_{tlfg} x PM10 lb/$MMBtu_{lfg}$)

CO (lb per year) = (HI_{tc} x CO lb/$MMBtu_{coal}$) + (HI_{to} x CO lb/$MMBtu_{oil}$) + (HI_{tlfg} x CO lb/$MMBtu_{lfg}$)

VOC (lb per year) = (HI_{tc} x VOC lb/$MMBtu_{coal}$) + (HI_{to} x VOC lb/$MMBtu_{oil}$) + (HI_{tlfg} x VOC lb/$MMBtu_{lfg}$)

Pb (lb per year) = (HI_{tc} x Pb lb/$MMBtu_{coal}$) + (HI_{to} x Pb lb/$MMBtu_{oil}$) + (HI_{tlfg} x Pb lb/$MMBtu_{lfg}$)

HCl (lb per year) = (HI_{tc} x HCl lb/$MMBtu_{coal}$) + (HI_{to} x HCl lb/$MMBtu_{oil}$) + (HI_{tlfg} x HCl lb/$MMBtu_{lfg}$)

HF (lb per year) = (HI_{tc} x HF lb/$MMBtu_{coal}$) + (HI_{to} x HF lb/$MMBtu_{oil}$) + (HI_{tlfg} x HF lb/$MMBtu_{lfg}$)

*NOx (lb per year) = (HI_{tc} x NOx lb/$MMBtu_{coal}$) + (HI_{to} x NOx lb/$MMBtu_{oil}$) + (HI_{tlfg} x NOx lb/$MMBtu_{lfg}$)

*SO_2 (lb per year) = (HI_{tc} x SO_2 lb/$MMBtu_{coal}$) + (HI_{to} x SO_2 lb/$MMBtu_{oil}$) + (HI_{tlfg} x SO_2 lb/$MMBtu_{LFG}$ x control efficiency**)

Where:
HI_{tc} = Monthly Total Coal Heat Input, MMBtu/hr
HI_{to} = Monthly Total Oil Heat Input, MMBtu/hr
HI_{tlfg} = Monthly Total Landfill Gas Heat Input, MMBtu/hr

Note: The formulas are for inventorying each fuel only. The annual emission rates shall be calculated monthly as the sum of each consecutive twelve-month period.

*NOx and SO_2 emission rates are determined as in Conditions 5, 6 and 13.
**Control Efficiency is defined in Condition 4.
(9 VAC 5-80-1310)

*13. **Emission Limits -** Emissions from the operation of the boiler shall not exceed the limits specified below:

CRITERIA POLLUTANTS:

	lbs/MMBtu	lbs/ hour	tons/year
Total Suspended Particulate (TSP)	0.020	44.0	192.7
PM10	0.018	39.6	173.5
Sulfur Dioxide (SO_2)	0.10	220.0	963.6
Nitrogen Oxides (NOx)	0.15	330.0	1445.4
Carbon Monoxide (CO)	0.20	440.0	1927.2
Volatile Organic Compounds (VOC)	0.01	22.0	96.4
Lead (Pb)	8.95×10^{-5}	0.2	0.9

TOXIC POLLUTANTS:

	lbs/ hour	tons/year
Antimony	1.8×10^{-2}	7.1×10^{-3}
Arsenic	1.4×10^{-1}	1.6×10^{-1}
Beryllium	2.0×10^{-2}	8.2×10^{-3}

	lbs/ hour	tons/year
Cadmium	1.8×10^{-2}	2.0×10^{-2}
Chloride (as HCl)	1.2×10^{0}	5.5×10^{0}
Chromium	3.9×10^{-1}	1.3×10^{-1}
Cobalt	1.0×10^{-1}	3.9×10^{-2}
Fluoride (as HF)	1.8×10^{0}	7.5×10^{0}
Formaldehyde	1.1×10^{-1}	9.4×10^{-2}
Manganese	7.5×10^{-1}	1.9×10^{-1}
Mercury	7.8×10^{-3}	3.3×10^{-2}
Nickel	3.2×10^{-1}	1.1×10^{-1}
POM	6.4×10^{-3}	2.3×10^{-2}
Selenium	1.3×10^{0}	5.1×10^{-1}

Criteria and toxic pollutant emission limit notes:

(a) Compliance with the "lb/MMBtu" and "lb/hour" emission limits for sulfur dioxide and nitrogen oxides are each determined on a thirty day rolling average basis. Compliance is determined by calculating the arithmetic average of all hourly emission rates for SO_2 and NOx for the thirty successive boiler operating days, except for data obtained during start-up, shutdown, malfunction (NOx only), or emergency conditions (SO_2 only)

(b) The "lb/MMBtu", "lb/hour" and "tons/year" emission limits for nitrogen oxides in this condition do not supersede the requirements contained in Conditions 5 and 6 of this permit for the facility to achieve maximum nitrogen oxides emissions of 0.10 lb/MMBtu, 220 lbs/hour (both on a thirty day rolling average) and 963.6 tons/year. The higher values set in this permit condition represent worst-case nitrogen oxides emissions limits in the event of marginal performance or deterioration of the SCR system.

(c) The hourly emission limits set for the toxic pollutants are based on the higher emissions resulting from two different scenarios, namely, boiler start-up (coal and oil firing with no controls) and boiler operating at 100% load with full air pollution control equipment in operation at design specifications. Annual limits are based on the boiler operating at 100% load with full air pollution control equipment at design specifications. Compliance with the hourly and annual toxic pollutant emission limits will be based on meeting the coal throughput limit in Condition 11 and required use of emissions control equipment specified in Conditions 3 and 4.

(9 VAC 5-60-300, 9 VAC 5-50-280, 9 VAC 5-80-1310 and 9 VAC 5-80-1800)

14. **Emission Limits -** Fugitive dust emissions from the operation of the coal, and lime storage and handling systems shall not exceed the limitations specified below:

	lbs/ hour	tons/year
Total Suspended Particulate	1.8	3.6
PM_{10}	1.4	3.0

Hourly emission limits are estimated on a twenty-four hour averaged basis. These emissions are derived from the estimated overall emission contribution and are included for emission inventory purposes. Compliance shall be determined as stated in Conditions 8 and 16.
(9 VAC 5-50-90, 9 VAC 5-50-260 and 9 VAC 5-50-280)

15. **Visible Emission Limit -** Visible emissions from the boiler stack shall not exceed 10% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20% opacity. This condition applies at all times except during startup, shutdown, and malfunction.
(9 VAC 5-50-280, 9 VAC 5-80-1310 and 9 VAC 5-80-1180)

16. **Visible Emission Limit -** Visible emissions from all fabric filters (except those on the boiler) shall not exceed 5% opacity.
(9 VAC 5-50-280)

*17. **Fuel** - The approved fuels for the boiler are low sulfur bituminous coal and landfill gas (LFG). No. 2 distillate fuel oil may be used during start-up, shutdown and periods of flame instability. Distillate fuel oil is defined as fuel oil that meets the specifications for fuel oil numbers 1 or 2 under the American Society for Testing and Materials, "Standard Specification for Fuel Oils", except that the sulfur content shall not exceed the limit specified in Condition 19. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-1310, 9 VAC 5-80-1190 and 9 VAC 5-80-1800)

*18. **Fuel Certification** - The maximum sulfur content of the coal to be burned in the boiler shall not exceed 1.0% by weight on an annual average and 1.2% by weight per shipment. ("Shipment" is defined for this condition as a continuous, single delivery of fuels or blend of fuels from the same origin.) The permittee shall maintain records of all coal shipments received, indicating sulfur and ash content per shipment. The permittee shall also obtain a proximate analysis of the coal sulfur content at least once per shipment. Details of the sampling procedure shall be arranged with the Air Compliance Manager of the Fredericksburg Satellite Office of DEQ. All fuel delivery records and sampling results shall be

available on site for inspection by DEQ personnel. They shall be kept on file for the most current five-year period.
(VAC 5-80-1800 and 9 VAC 5-170-160)

19. **Fuel Certification** - The maximum sulfur content of the No. 2 fuel oil to be burned in the boiler during start-up and shutdown shall not exceed 0.30% by weight per shipment. The permittee shall either sample and analyze the No. 2 fuel oil tank(s) to determine sulfur content by weight immediately after each shipment is added to the tank(s) or obtain a certification from the fuel supplier, including sampling and analysis representative of each shipment of No. 2 fuel oil. Each sampling analysis or fuel supplier certification shall include the following:

a. The name of the fuel supplier;
b. The date on which the distillate oil was received;
c. The volume of distillate oil delivered in the shipment;
d. The sulfur content of the distillate oil.
e. Documentation of sampling of the oil indicating the location of the oil when the sample was drawn; and,
f. The method used to determine the sulfur content of the oil.

Records of sampling results or fuel certifications shall be available on site for inspection by the DEQ and be kept current for the most current five-year period. (9 VAC 5-170-160, 9 VAC 5-50-280 and 9 VAC 5-50-50)

*20. **Monitoring Device/Sensor** - A device shall be installed and operated to measure and record the volumetric flow rate of the stack exhaust gas. It shall be maintained and calibrated in accordance with the manufacturer's specification. This device shall be performance tested in accordance with procedures approved by the DEQ - Fredericksburg Satellite Office.

The boiler shall be equipped with a sensor that will discontinue the flow of LFG to the boiler when the boiler is not in operation.
(9 VAC 5-50-40 and 9 VAC 5-80-1180D)

*21. **Continuous Monitoring Device** - A continuous emission monitor shall be installed on the boiler stack to measure the opacity of emissions. Recordkeeping, data reduction and data reporting shall be in accordance with the general provisions of NSPS (40 CFR §§ 60.7 and 60.13) and with §60.49a (h) of NSPS Subpart Da. The monitor shall be performance tested in accordance with the appropriate EPA Performance Specification listed in 40 CFR 60, Appendix B. All notification requirements are to be submitted to the Air Compliance Manager of the Fredericksburg Satellite Office. A quality assurance program, as approved by the DEQ, shall be established and implemented as part of this condition.
(9 VAC 5-50-40 and 9 VAC 5-170-160)

*22. **Continuous Monitoring Device** - A continuous emission monitoring system (CEMS) consisting of a NOx monitor and a suitable diluent monitor (either CO_2 or O_2), shall be installed downstream of the selective catalytic reduction system of the boiler. The continuous monitoring data generated by the NOx CEMS shall be used to determine continuous compliance with the thirty-day rolling average NOx emission standard (in lbs/10^6 Btu and lbs/hour) in Condition 13. The NOx CEMS shall be performance tested in accordance with the appropriate EPA Performance Specification listed in 40 CFR 60, Appendix B. All of the CEM calculations, data reduction, recordkeeping and reporting requirements of NSPS Subpart Da shall apply. All notification requirements are to be submitted to the Air Compliance Manager of the Fredericksburg Satellite Office. For the purposes of the reporting requirements of this condition, a boiler operating day shall be defined as a twenty-four hour period between 12:00 midnight and the following 12:00 midnight during which any fuel is combusted at any time in the boiler. It is not necessary for fuel to be combusted continuously for the entire twenty-four hour period.
(9 VAC 5-50-40 and 9 VAC 5-170-160)

*23. **Continuous Monitoring Device** - A continuous emission monitoring system (CEMS) consisting of a SO_2 monitor and a suitable diluent monitor (either CO_2 or O_2), shall be installed to measure SO_2 at the inlet and outlet of the SO_2 control device. An "as fired" fuel monitoring system (upstream of the coal pulverizers) meeting the requirements of Method 19 (40 CFR 60, Appendix A) may be used to determine potential sulfur dioxide emissions in place of a continuous sulfur dioxide emission monitor at the inlet to the sulfur dioxide control device as required and stated above in this condition. The continuous monitoring data generated by the SO_2 CEMS shall be used to determine continuous compliance with the thirty day rolling average SO_2 emission standard (in lbs/10^6 Btu and lbs/hour) in Condition 13 and the SO_2 thirty day rolling average removal efficiencies specified in Condition 4. The SO_2 CEMS shall be performance tested in accordance with the appropriate EPA Performance Specification listed in 40 CFR 60, Appendix B. All of the CEM calculations, data reduction, recordkeeping and reporting requirements of NSPS Subpart Da shall apply. All notification requirements are to be submitted to the Air Compliance Manager of the Fredericksburg Satellite Office. For the purposes of the reporting requirements of this condition, a boiler operating day shall be defined as a twenty-four hour period between 12:00 midnight and the following 12:00 midnight during which any fuel is combusted at any time in the boiler. It is not necessary for fuel to be combusted continuously for the entire twenty-four hour period.
(9 VAC 5-50-40 and 9 VAC 5-170-160)

24. **Monitoring Instrumentation** - The permittee shall install and maintain instrumentation necessary to determine compliance during on-site inspection by

agency personnel. This instrumentation should indicate and record the following, at minimum:

a. The hourly heat input of the boiler in 10^6 Btu/hour;

b. The thirty day rolling average SO_2 emission rated, in lbs/10^6 Btu and lbs/hour, on a daily basis;

c. The thirty day rolling average SO_2 removal rate, expressed as a percent, on a daily basis; and

d. The thirty day rolling average NOx emissions rate in lbs/10^6 Btu and lbs/hour on a daily basis.

These data shall be kept on file for the most recent five year period and made available to the DEQ upon request.
(9 VAC 5-50-40 and 9 VAC 5-80-1180D)

25. **Monitoring Device Observation** - The continuous monitoring data generated by the opacity monitoring system may, at the discretion of the board, be used as evidence of violation of the applicable emission standards. This data shall be kept on file and made available to the DEQ upon request
(9 VAC 5-50-40 and 9 VAC 5-80-1180D)

26. **Monitoring Device Observation** - The SO_2, NOx, and opacity monitoring systems required by this permit shall obtain valid data for no less than 90% of boiler operating hours in each calendar quarter, and the SO_2 and NOx monitoring systems shall obtain valid data for no less than 75% of operating hours in twenty-two of every thirty successive boiler operating days. If this data requirement is not met with a single monitoring system, the permittee shall supplement the emissions data with data collected with other monitoring systems as approved by the Air Compliance Manager of the Fredericksburg Satellite Office or by the procedures set forth in 40 CFR 60.47a (h). Note: this requirement is in lieu of the data availability requirement of 40 CFR 60.47a (f). The SO_2 and NOx monitoring systems shall also meet the quality assurance requirements of 40 CFR 60, Appendix F. The opacity monitoring system shall be operated in accordance with 40 CFR 60.13 and other quality assurance procedures approved by the Air Compliance Manager of the Fredericksburg Satellite Office.
(VAC 5-170-160)

27. **Requirements by Reference** - The permittee shall meet all applicable requirements of each New Source Performance Standard applicable to this facility:

a. 40 CFR Part 60, Subpart Da - Standards of Performance for Electric Utility Steam Generating Units; and

b. 40 CFR Part 60, Subpart Kb (60.116b, paragraphs (a) and (b)) - Standards of Performance for Volatile Organic Liquid Storage Vessels.

Applicable State emission standards, if different from these subparts, are included in Condition 13.
(9 VAC 5-50-410)

*28. **Monitoring Device Testing** - The CEMS reference method testing required in the appropriate EPA Performance Specification listed in 40 CFR 60, Appendix B shall be used to conduct the performance tests for the SO_2, SO_2 removal efficiency and NOx standards when requested by the DEQ. Upon request by the DEQ, performance evaluations of the opacity monitor shall be conducted in accordance with 9 VAC 5-50-30. The Air Compliance Manager of the Fredericksburg Satellite Office shall be furnished with two copies of the report of the performance evaluations within sixty days of the evaluation.
(9 VAC 5-50-40 and 9 VAC 5-60-40)

*29. **Stack Testing and Test/Monitoring Ports** - The permitted facility shall be modified upon request by the DEQ to allow emissions testing using appropriate methods upon reasonable notice at any time.

Stack tests for the new or modified sources shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and 9 VAC 5-60-30 and the test methods and procedures contained in each applicable section or subpart listed 9 VAC 5-50-410 and 9 VAC 5-60-70. Opacity tests shall be conducted in accordance with 40 CFR, Part 60, Appendix A, Method 9. The details of emission tests are to be arranged with the Air Compliance Manager of the Fredericksburg Satellite Office.
(9 VAC 5-50-30, 9 VAC 5-60-30 and 9 VAC 5-80-1770)

*30. **Physical Barrier** - A physical barrier shall be installed and maintained at the facility property line to prevent public access.
(9 VAC 5-170-160)

NOTIFICATIONS

*31. **Initial Notifications** - The permittee shall furnish written notification to the Air Compliance Manager of the Fredericksburg Satellite Office:

a. The actual date on which modification of the pulverized coal-fired boiler for the combustion of LFG commenced within thirty days after such date.

b. The anticipated start-up date of the modified pulverized coal-fired boiler postmarked not more than sixty days nor less than thirty days prior to such date.

c. The actual start-up date of the modified pulverized coal-fired boiler within fifteen days after such date.

(9 VAC 5-50-50, 9 VAC 5-170-160)

*32. **Notification for Control Equipment Maintenance -** The permittee shall furnish notification to the Air Compliance Manager of the Fredericksburg Satellite Office of the DEQ of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which may result in excess emissions for more than one hour, at least twenty-four hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;

b. The expected length of time that the air pollution control equipment will be out of service;

c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;

d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-20-180 B)

*33. **Notification of Malfunction** - The permittee shall furnish notification to the Air Compliance Manager of the Fredericksburg Satellite Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour by facsimile transmission, telephone or telegraph within four business hours. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Fredericksburg Satellite Office in writing.

The portion of the facility which is subject to the provision of Rule 6-5 (non-criteria) shall shut down immediately upon request of the DEQ. Also, if any

failure, malfunction or unscheduled maintenance is unreasonably affecting the public health, safety or welfare, the DEQ may order the owner to cease such pollution immediately. In addition, the owner shall provide a written statement explaining the problem and the estimated duration of the breakdown/shut down. When the condition causing the failure, malfunction or unscheduled maintenance has been corrected and the air pollution control equipment is again in operation, the owner shall notify the Air Compliance Manager of the Fredericksburg Satellite Office.
(9 VAC 5-20-180C and 9 VAC 5-170-160)

REPORTS/RECORDKEEPING

*34. **Reports** - The permittee shall submit quarterly reports to the Air Compliance Manager of the Fredericksburg Satellite Office within thirty days after the end of each calendar quarter. Each quarterly report shall contain, at a minimum, the dates included in the calendar quarter and the following (additional details of the quarterly reports are to be arranged with the Air Compliance Manager of the Fredericksburg Satellite Office).

a. With regard to No. 2 fuel oil, fuel sulfur content; if no shipments of No. 2 fuel oil were received during the calendar quarter, the quarterly report shall include a statement that no oil was received during the calendar quarter. If No. 2 fuel oil was received during the calendar quarter, the reports shall include:

   i. One of the following; copies of all fuel analyses, a summary of all fuel analyses that includes the information specified in Condition 19, fuel supplier certification for all shipments of distillate oil received during the calendar quarter, or a quarterly summary from each fuel supplier that includes the information specified in Condition 19 for each shipment No. 2 fuel oil, and

   ii. A signed statement from the owner or operator of the facility that the information required by paragraph i. above is representative of all the No. 2 fuel oil burned at the facility.

b. With regard to the SO_2 and NOx monitoring systems, the quarterly report shall include the information required under 40 CFR § 60.49a (b)-(g).

c. With regard to the opacity monitoring system, the quarterly report shall include excess emission and monitoring system downtime reports and/or summaries in accordance with 40 CFR §§ 60.7(c) and (d). Excess opacity emissions are defined as all six minute periods for which the average opacity

exceeds the limit given in Condition 15, excluding periods of start-up, shutdown and malfunction.

d. With regard to SCR system operations, the quarterly report shall include each replacement or addition of SCR catalyst and a summary of ammonia injection rates (details are to be arranged with the Air Compliance Manager of the Fredericksburg Satellite Office).

e. Yearly fuel throughputs for each fuel, calculated monthly as the sum of each consecutive twelve-month period.

(9 VAC 5-50-50 and 9 VAC 5-170-160)

35. **Record Retention** - The permittee shall retain records of all emission data and operating parameters required, to include process throughput, by the terms of this permit. These records shall be maintained by the source for the most current five-year period.
(9 VAC 5-50-50 and 9 VAC 5-60-50)

GENERAL CONDITIONS

*36. **Certification of Documents**

A. The following documents submitted to the board shall be signed by a responsible official: (i) any emission statement, application, form, report, or compliance certification; (ii) any document required to be signed by any provision of the regulations of the board; or (iii) any other document containing emissions data or compliance information the owner wishes the board to consider in the administration of its air quality programs. A responsible official is defined as follows:

1. For a business entity, such as a corporation, association or cooperative, a responsible official is either:

a. The president, secretary, treasurer, or a vice president of the business entity in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the business entity; or

b. A duly authorized representative of such business entity if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either (i) the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars) or (ii) the authority to sign documents has been assigned or delegated to

such representative in accordance with procedures of the business entity.

2. For a partnership or sole proprietorship, a responsible official is a general partner or the proprietor, respectively.

3. For a municipality, state, federal, or other public agency, a responsible official is either a principal executive officer or ranking elected official. A principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of the a principal geographic unit of the agency.

B. Any person signing a document under subsection A above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

C. Subsection B shall be interpreted to mean that the signer must have some form of direction or supervision over the persons gathering the data and preparing the document (the preparers), although the signer need not personally nor directly supervise these activities. The signer need not be in the same line of authority as the preparers, or do the persons gathering the form need to be employees (e.g., outside contractors can be used). It is sufficient that the signer has authority to assure that the necessary actions are taken to prepare a complete and accurate document.
(9 VAC 5-20-230)

*37. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I)

*38. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions,

with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

b. Maintain an inventory of spare parts.

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance/service and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request. (9 VAC 5-50-20 E and 9 VAC 5-80-1180)

39. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:

a. Knowingly makes material misstatements in the application for this permit or any amendments to it;

b. Fails to comply with the conditions of this permit.;

c. Fails to comply with any emission standards applicable to the equipment in Condition 2;

d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect on the date that the application for this permit is submitted;

f. Allows the permit to become invalid.

(9 VAC 5-80-1950 and 9 VAC 5-80-1210D)

*40. **Change of Ownership** - In the case of a transfer of ownership of a new stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Air Compliance Manager of the Fredericksburg Satellite Office of DEQ of the change of ownership within thirty days of transfer.
(9 VAC 5-80-1240)

*41. **Permit Invalidation** - The portions of this permit which pertain to the modification of the pulverized coal-fired boiler for the combustion of LFG shall become invalid, unless an extension is granted by the DEQ, if:

a. A program of continuous modification is not commenced before the latest of the following:

1. Eighteen months from the date of this permit;

2. Nine months from the date that the last permit or other authorization was issued from any other governmental agency;

3. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or

b. A program of modification is discontinued for a period of eighteen months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.
(9 VAC 5-80-1210, 9 VAC 5-80-1880)

42. **Severable Condition** - The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of that provision to other circumstance, and the remainder of this permit shall not be affected thereby.
(9 VAC 5-170-160)

43. **Permit Applicability** - This permit approval is only applicable to the permit requirements of the State Air Pollution Control Board and does not alter permit requirements by any other local, state, or federal government agency. The permittee is cautioned that approval of this permit should not be construed to mean its operation is automatically in compliance with all aspects of the Regulations for the Control and Abatement of Air Pollution. Initial compliance shall be verified by stack test if required, visible emission evaluation if appropriate and by other means (process rate, operating practice, etc.) continuing compliance shall be verified by the department personnel by constant

surveillance in accordance with the State Air Pollution Control Board regulations. Compliance with all air pollution regulations must be a continuing, full time effort. (9 VAC 5-80-1880 and 9 VAC 5-170-160)

*44. **Registration/Update** - Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.
(9 VAC 5-170-60 and 9 VAC 5-20-160)

45. **Right of Entry** - The permittee shall allow authorized local, state and federal representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
(9 VAC 5-170-130)

46. **Permit Copy** - A copy of this permit shall be maintained on the premises of the facility to which it applies.
(9 VAC 5-170-160)

SOURCE TESTING REPORT FORMAT

Cover
1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Tester; name, address and report date

Certification
1. Signed by team leader / certified observer (include certification date)
* 2. Signed by reviewer

Introduction
1. Test purpose
2. Test location, type of process
3. Test dates
* 4. Pollutants tested
5. Test methods used
6. Observers' names (industry and agency)
7. Any other important background information

Summary of Results
1. Pollutant emission results / visible emissions summary
2. Input during test vs. rated capacity
3. Allowable emissions
* 4. Description of collected samples, to include audits when applicable
5. Discussion of errors, both real and apparent

Source Operation
1. Description of process and control devices
2. Process and control equipment flow diagram
3. Process and control equipment data

* Sampling and Analysis Procedures
1. Sampling port location and dimensioned cross section
2. Sampling point description
3. Sampling train description
4. Brief description of sampling procedures with discussion of deviations from standard methods
5. Brief description of analytical procedures with discussion of deviation from standard methods

Appendix
* 1. Process data and emission results example calculations
2. Raw field data
* 3. Laboratory reports
4. Raw production data
* 5. Calibration procedures and results
6. Project participants and titles
7. Related correspondence
8. Standard procedures

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* Not applicable to visible emission evaluations.